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L Number	Hits	Search Text	DB	Time stamp
1	2027	(stapler or stapling or staple).ti.	USPAT; US-PGPUB	2003/09/23 13:57
2	582102	(adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance)))	USPAT; US-PGPUB	2003/09/23 15:39
3	39904	(staple or nail or wire or fastener) with ((adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) )	USPAT; US-PGPUB	2003/09/23 14:08
4	138	((stapler or stapling or staple).ti.) and ((staple or nail or wire or fastener) with ((adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) )	USPAT; US-PGPUB	2003/09/23 14:08
5	3	("3622061"   "4623082"   "4650105").PN.	USPAT	2003/09/23 14:33
10	1	(staple with (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) ) and 4993616.pn.	USPAT; US-PGPUB	2003/09/23 15:18
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12	2371	staple near2 (sheet or web)	USPAT; US-PGPUB	2003/09/23 15:39
13	380	(stack or stacked or stacking or layering or piling or piling-up or stacking-up or stack-up) with (staple near2 (sheet or web))	USPAT; US-PGPUB	2003/09/23 15:39
14	19	((adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) ) same ((stack or stacked or stacking or layering or piling or piling-up or stacking-up or stack-up) with (staple near2 (sheet or web)))	USPAT; US-PGPUB	2003/09/23 15:40
15	7	("2943436"   "3156376"   "3524575"   "3604608"   "3622061"   "4356947"   "4542844").PN.	USPAT	2003/09/23 15:48
16	25	4623082.URPN.	USPAT	2003/09/23 15:50
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25	1	((adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance)))) and 4623082.pn.	USPAT; US-PGPUB	2003/09/23 15:58
26	1	(adhesive or glue) and 4623082.pn.	USPAT; US-PGPUB	2003/09/23 15:59

L Number	Hits	Search Text	DB	Time stamp
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10	2119	(stack or stacked or stacking or layered or layering or stack-up or stacking-up) same ((staple or wire or nail or fastener) same (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) )	USPAT; US-PGPUB	2003/09/23 11:01
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13	17702	(staple or wire or nail or fastener) with (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance)))	EPO; JPO; DERWENT	2003/09/23 11:02
14	204	(stack or stacked or stacking or layered or layering or stack-up or stacking-up) same ((staple or wire or nail or fastener) with (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) )	EPO; JPO; DERWENT	2003/09/23 11:03
15	1205	staple with (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance)))	EPO; JPO; DERWENT	2003/09/23 11:03
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L Number	Hits	Search Text	DB	Time stamp
1	14	(staple near2 blank).ti,ab.	USPAT; US-PGPUB	2003/09/23 10:45
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13	17702	(staple or wire or nail or fastener) with (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance)))	EPO; JPO; DERWENT	2003/09/23 11:02
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15	1205	staple with (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance)))	EPO; JPO; DERWENT	2003/09/23 11:03
16	27	(stack or stacked or stacking or layered or layering or stack-up or stacking-up) same (staple with (adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) )	EPO; JPO; DERWENT	2003/09/23 11:09
17	0	((staple or stapling) near2 blank).ti.	USPAT; US-PGPUB	2003/09/23 11:10
18	7	((staple or stapling) near2 blank).ti.	EPO; JPO; DERWENT	2003/09/23 11:10

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1	2027	(stapler or stapling or staple).ti.	USPAT; US-PGPUB	2003/09/23 13:57
2	582102	(adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance)))	USPAT; US-PGPUB	2003/09/23 13:57
3	39904	(staple or nail or wire or fastener) with ((adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) )	USPAT; US-PGPUB	2003/09/23 14:08
4	138	((stapler or stapling or staple).ti.) and ((staple or nail or wire or fastener) with ((adhesive or glue or binder or ((bonding or binding) adj1 (agent or material or resin or composition or substance))) ))	USPAT; US-PGPUB	2003/09/23 14:08
5	3	("3622061"   "4623082"   "4650105").PN.	USPAT	2003/09/23 14:33



US-PAT-NO: 4623082

DOCUMENT-IDENTIFIER: US 4623082 A

TITLE: Electronic stapler

----- KWIC -----

US Patent No. - PN (1):  
4623082

Claims Text - CLTX (1):

1. A power-driven stapler adapted to use staple sheets comprising: a cartridge accommodating portion for accommodating a staple cartridge in which are stacked multiple layers of staple sheets, each of which is prepared by connecting a multiplicity of unformed non-U-shaped staple elements by means of an **adhesive**; feed path defining means formed in front of said accommodating portion for introducing staple sheets from a staple cartridge accommodated in said accommodating portion from the rear end thereof and for guiding the same to the front end thereof; feed means disposed to extend from said accommodating portion to said feed path defining means for consecutively and continuously feeding out the staple sheets from the staple cartridge accommodated in said accommodating portion onto said feed path defining means; forming means arranged in front of said feed path defining means for consecutively forming the staple elements of the staple sheets into staples having a U-shape; staple driver means for driving consecutively U-shaped staples formed by said forming means; clinching means for bending the leg portions of the driven staples; electric motor drive means for driving at least said feed means, said forming means and said staple driver means; and control means for controlling the drive of said electric motor drive means in a single cycle of the clinching step.

US-PAT-NO: 4129059

DOCUMENT-IDENTIFIER: US 4129059 A

TITLE: **Staple**-type fastener

----- KWIC -----

Abstract Text - ABTX (1):

A **staple**-type fastener includes a separate receiving member that is wider than the diameter of the **staple** prongs. In use, the prongs are inserted through sheets of material to be fastened together and then into the receiving member, which may be fitted with a tab to facilitate removal. One embodiment of the fastener includes a wide upper cross-member to further reduce the tendency of the **staple** to tear through fastened sheet materials. In another embodiment of the fastener a foldable tab on the receiving member is adapted to have the **staple** prongs bent over it, the tab facilitating straightening of the prongs for removal of the fastener from the sheets of material.

TITLE - TI (1):

**Staple**-type fastener

Brief Summary Text - BSTX (7):

U.S. Pat. No. 644,976 issued on Mar. 6, 1900 to J. H. Gibson, discloses a wire staple for attaching a carpet to a floor. The **staple simply includes a perforated** disk-like head for facilitating removal of the staple. The floor serves as the receiving element.



	Document ID	Title
26	US 4207898 A	Intraluminal anastomosis surg
27	US 4179057 A	Disposable surgical stapling i
28	US 4129059 A	Staple-type fastener
29	US 4043504 A	Staple cartridge and feed me

US-PAT-NO: 4129059

DOCUMENT-IDENTIFIER: US 4129059 A

Times New Roman 12

----- KWIC -----

Abstract Text - ABTX (1):

A staple-type fastener includes a separate receiving member that is wider than the diameter of the staple prongs. In use, the prongs are inserted through sheets of material to be fastened together and then into the receiving member, which may be fitted with a tab to facilitate removal. One embodiment of the fastener includes a wide upper cross-member to further reduce the tendency of the staple to tear through fastened sheet materials. In another embodiment of the fastener a foldable tab on the receiving member is adapted to have the staple prongs bent over it, the tab facilitating straightening of the prongs for removal of the fastener from the sheets of material.

TITLE - TI (1):

Staple-type fastener

Brief Summary Text - BSTX (7):

U.S. Pat. No. 644,976 issued on Mar. 6, 1900 to J. H. Gibson, discloses a wire staple for attaching a carpet to a floor. The staple simply includes a perforated disk-like head for facilitating removal of the staple. The floor serves as the receiving element.

U.S. Patent Dec. 12, 1978

Sheet 2 of 2

4,129,059

Fig. 10.

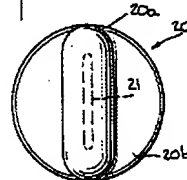


Fig. 11.

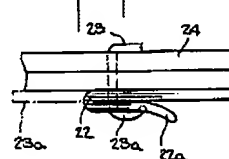


Fig. 13.

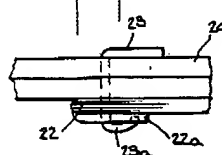


Fig. 18.



Fig. 14.

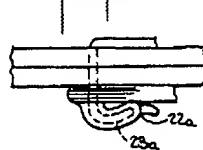


Fig. 15.



Fig. 16.

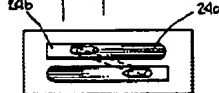


Fig. 18.

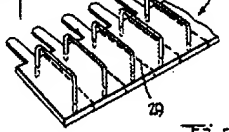
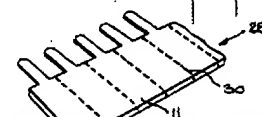


Fig. 17.



Fig. 19.





Document ID	Title
13	US 20020017546 A1 Roll staple cartridge
14	US 20020016120 A1 NON-WOVEN FABRIC COM
15	US 20020014423 A1 Roll staple
16	US 20010050302 A1 Motor operated stapler

DOCUMENT-IDENTIFIER: US 20020014423 A1

TITLE: Roll staple



Title - TTL (1):  
Roll staple

## Summary of Invention Paragraph - BSTX (6):

[0005] The pulling out tape 12 is attached removably on a portion near by the leading end 11a of roll staple body 11 by an adhesive material. The pulling out tape 12 is wound one round on the roll staple body 11 and a seizing portion 12a is mounted on its top end which is a free end of the tape 12.



US 20020014423 A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2002/0014423 A1

Fujishima et al.

(43) Pub. Date: Feb. 7, 2002

(54) ROLL STAPLE

(30) Foreign Application Priority Data

(76) Inventor: Atsuyoshi Fujishima, Tokyo (JP);  
Masayoshi Shigenuma, Tokyo (JP);  
Yoshitake Kawada, Tokyo (JP);  
Masaru Ando, Tokyo (JP); Susumu  
Shimizu, Tokyo (JP)

Jul. 18, 2000 (JP) 2000-225521

## Publication Classification

(51) Int. Cl. B65D 85/24  
(52) U.S. Cl. 296/349

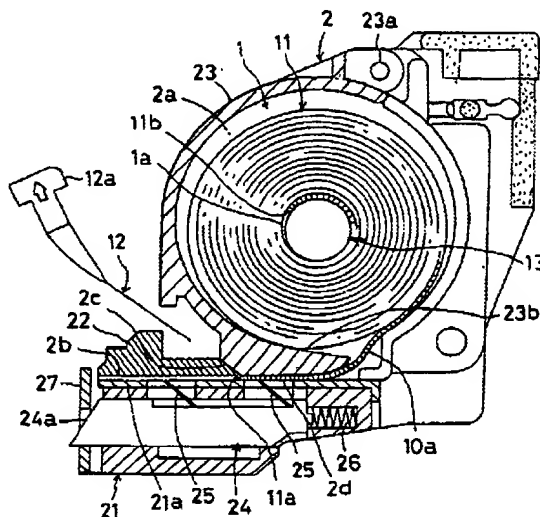
Correspondence Address:  
CHAIRMAN AND CUTLER  
111 WEST MONROE STREET  
CHICAGO, IL 60603 (US)

(21) Appl. No.: 09/915,675

(22) Filed: Jul. 26, 2001

## (57) ABSTRACT

A roll staple 1 comprising a roll staple body 11 which is made of a sheet staple formed by a large number of straight staples 10a joined parallelly, and wound so as to make a through hole 1a at the portion of central axis, and a core material 13 which is inserted into the through hole 1a of the roll staple body 11.



	Document ID	Title
75	US 5366479 A	Surgical staple for attaching a
76	US 5364002 A	Apparatus and method for app
77	US 5360305 A	Clinch staples and method of
78	US 5356064 A	Apparatus and method for app

US-PAT-NO: 5360305

DOCUMENT-IDENTIFIER: US 5360305 A

of manufacturing and applying

Times New Roman 12

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## TITLE - TI (1):

Clinch staples and method of manufacturing and applying clinch staples

## Detailed Description Text - DETX (8):

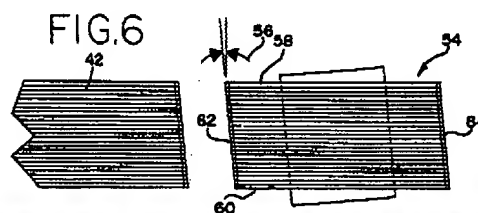
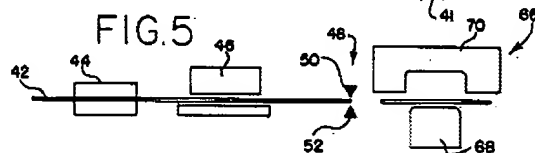
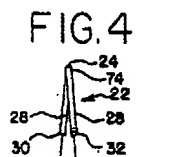
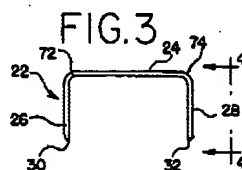
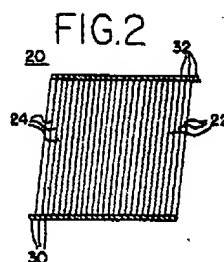
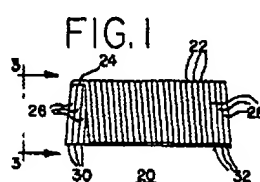
The process is begun by supplying a number of individual discrete wires 42 from a source or supply (not shown) in a flat planar, side-by-side array. The array of wires 42 is moved through an application station 44 where an adhesive or binder is applied to the array of wires 42. The adhesive usually is in a liquid form so that it can be readily applied to the array of wires 42. After the adhesive or binder is applied, the adhesive or binder needs to be dried or cured. As a result, the array of wires 42 are fed through a drying or curing station 46 where heat, air or the like is applied to the array of wires 42. At this point in the fabrication of the assembly of fasteners 20, each wire 42 is adhered to the adjacent wire or wires 42 such that a flat planar web or strip of wires 42 is formed (see FIG. 6).

U.S. Patent

Nov. 1, 1994

Sheet 1 of 2

5,360,305



	Document ID	Title
88	US 5087077 A	Staple based binding system
89	US 4993616 A	Electric stapler cartridge
90	US 4978045 A	Sheet stapler
91	US 4949893 A	Emergency staple pack

US-PAT-NO: 4993616

DOCUMENT-IDENTIFIER: US 4993616 A



----- KWIC -----

TITLE - TI (1):

Electric stapler cartridge

Brief Summary Text - BSTX (5):

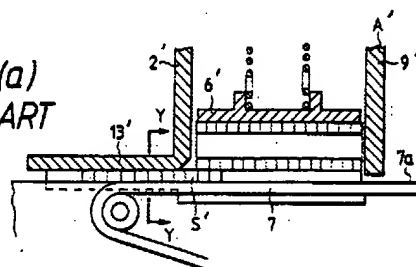
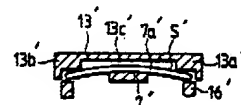
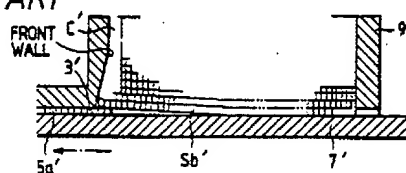
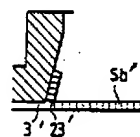
In the prior art staples are successfully supplied with a pawl to the forming and driving section. In such a stapler the staples are formed into a roll using a piece of tape as well as an adhesive. This double adhesive is necessary in order to reliably hold the staples together into the roll. The roll is then loaded into a cartridge and thus is fed into the stapler. The disadvantages of this system are twofold. First, the taping involves an extra step in the manufacturing of the staple roll. In addition, the tape tends to separate from the roll when the driving means drives a formed staple placed in a driving position and interfere with the driving mechanism, so that the staple hammering operation may not be achieved.

U.S. Patent

Feb. 19, 1991

Sheet 1 of 3

4,993,616

FIG. 1(a)  
PRIOR ARTFIG. 1(b)  
PRIOR ARTFIG. 2(a)  
PRIOR ARTFIG. 2(b)  
PRIOR ART

	Document ID	Title
124	US 4138076 A	Staple cassette
125	US 4066165 A	Staples and production method
126	US 4010295 A	Process for continuously bond
127	US 4010056 A	Process for continuously bond

US-PAT-NO: 4066165  
DOCUMENT-IDENTIFIER: US 4066165 A

Methods

Times New Roman 12

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#### Abstract Text - ABTX (1):

Novel glue-less staples are formed economically of sheet metal having essentially abutting but parted margins, the staples being joined to one another by localized integral connections along the margins. The connections can be of controlled size and their weakness can be controlled by mechanical working of the metal. As a specific feature, the connections can be formed to provide the standard bond strength found in glued rows of staples, so that the novel strips of staples can be made for use in conventional tackers and staplers.

#### TITLE - TI (1):

Staples and production methods

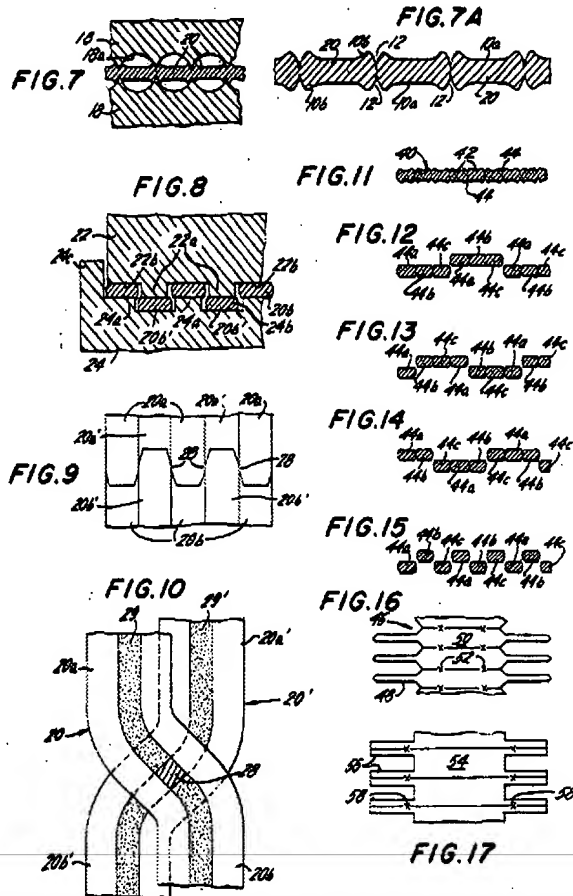
#### Brief Summary Text - BSTX (5):

Two broad methods have been used for making strips of staples. One method involves making wire, forming the wire into individual staples, and uniting the separate staples into a strip by a readily severable tape and adhesive, or into a stick by means of glue. All such staples involve the high cost of producing the wire, and the added cost of the joining materials. In the case of glue, there is a latitude of uncertainty that leads to unintentioned fracturing of a stick of staples into smaller and sometimes useless, often troublesome, pieces. In any case, glue and tape of various kinds sometimes accumulates in a stapler or a tacker, occasionally causing the tool to jam and in some cases requiring periodic cleaning.

U.S. Patent Jan. 3, 1978

Sheet 2 of 3

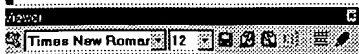
4,066,165



	Document ID	Title
88	US 5087077 A	Staple based binding system
89	US 4993616 A	Electric stapler cartridge
90	US 4978045 A	Sheet stapler
91	US 4949893 A	Emergency staple pack

US-PAT-NO: 4993616

DOCUMENT-IDENTIFIER: US 4993616 A



----- KWIC -----

TITLE - TI (1):

Electric stapler cartridge

Brief Summary Text - BSTX (5):

In the prior art staples are successfully supplied with a pawl to the forming and driving section. In such a stapler the staples are formed into a roll using a piece of tape as well as an adhesive. This double adhesive is necessary in order to reliably hold the staples together into the roll. The roll is then loaded into a cartridge and thus is fed into the stapler. The disadvantages of this system are twofold. First, the taping involves an extra step in the manufacturing of the staple roll. In addition, the tape tends to separate from the roll when the driving means drives a formed staple placed in a driving position and interfere with the driving mechanism, so that the staple hammering operation may not be achieved.

U.S. Patent

Feb. 19, 1991

Sheet 2 of 3

4,993,616

FIG. 3(a)

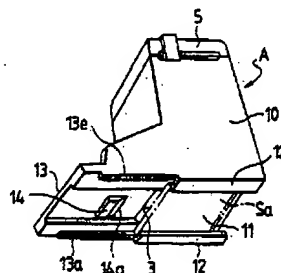


FIG. 3(b)

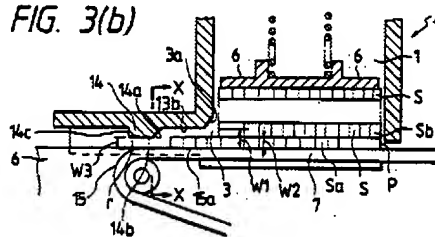
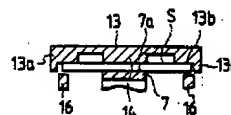


FIG. 3(c)



Document ID	Title
6 US 5540374 A	Bone stapler cartridge
7 US 5390905 A	Apparatus for cutting and bind
8 US 5342033 A	Control method for sheet disch
9 US 5273199 A	Staple cartridge

US-PAT-NO: 5342033

DOCUMENT-IDENTIFIER: US 5342033 A

\*\*See image for Certificate of Correction\*\*

discharger with stapler

----- KWIC -----

# Brief Summary Text - BSTX (10):

According to an embodiment of the present invention, the sheet discharger is provided with a sheet holder such as a stapler in a means for accommodating the discharged or output sheet to staple the output sheets for each set, wherein a bound portion of bound sheets is displaced from a binding position, and thereafter, next discharged sheets and allowed to be stapled, and wherein the stapled sets of sheets are accommodated together, that is, overlaid, stacked or vertically.

Current US Class - CLAS (1):

227

U.S. Patent

Aug. 30, 1994

Sheet 6 of 16

5,342,033

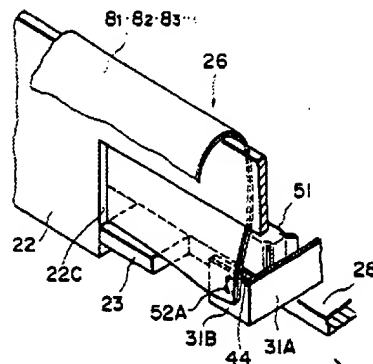


FIG. 8

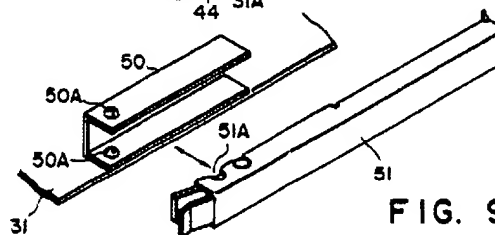
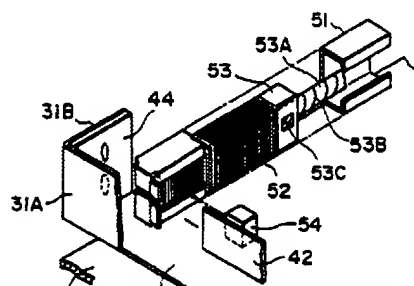


FIG. 9



Document ID	Title
22 US 4181327 A	Assembling method
23 US 4157778 A	Binding system
24 US 4151944 A	Staplers
25 US 4119332 A	Assembling method and appar

US-PAT-NO: 4151944

DOCUMENT-IDENTIFIER: US 4151944 A

Times New Roman 12

# Brief Summary Text - BSTX (2):

Power operated staplers are well known and take various forms. Generally, however, they comprise a driver and some means for reciprocating the driver in a drive track. Staples in the form of sticks or strips of detachably joined staples held together by an adhesive are fed to the drive track, usually along a staple rail, and sequentially severed from the stick during the driving operation to drive the staple into a workpiece, e.g. stack of papers. In order to increase the staple capacity of the stapler, a magazine may be provided which holds several staple sticks, the staple feeder being arranged to accept sticks from the magazine.

Current US Class - CLAS (1):

227

1 4,151,944 2

## STAPLERS

This invention relates to staplers and more particularly to mechanisms for feeding staples.

Power operated staplers are well known and take various forms. Generally, however, they comprise a driver and some means for reciprocating the driver in a drive track. Staples in the form of sticks or strips of detachably joined staples held together by an adhesive are fed to the drive track, usually along a staple rail, and sequentially severed from the stick during the driving operation to drive the staple into a workpiece, e.g. stack of papers. In order to increase the staple capacity of the stapler, a magazine may be provided which holds several staple sticks, the staple feeder being arranged to accept sticks from the magazine.

It will be understood that for effective operation of the stapler, the staple feeder must, at least during operation of the stapler, feed the staple stick in such a way that it advances stepwise as each staple is severed from its leading end. This is most easily achieved by biasing the stick into position for stapling. Conventionally a spring loaded slide is engaged against the rear end of the stick. With such an arrangement, however, the slide must be retracted while a new stick is loaded with the result that the stapler must be stopped during reloading. With the aim of providing a staple feeder which avoids the necessity of stopping to reload, it has been proposed (see U.S. Pat. No. 3,169,250) to advance the staples using a driven roller engaging the crown of the staple stick. While such an arrangement indeed permits reloading without stopping, a separate mechanism acting in conjunction with the roller is required to feed the next staple stick to the roller.

It is an object of this invention to provide a simplified staple feeder which performs both these functions by means of a single device.

To this end, the invention provides a stapler including a driver, a magazine for sticks of staples and a staple feeder for feeding staple sticks from said magazine to the driver and biasing the stick into position for stapling; said feeder comprising an endless belt arranged frictionally to engage the crown of a said stick and means for driving the belt.

If the force applied by the staple feeder in the feed direction is too high, the stick may buckle or skew resulting in misfeeding. The force applied in the feed direction may be limited in one or both of the following ways. The first is to arrange that the belt will slide on a staple stick while biasing the stick into stapling position. This may be achieved by suitable control of the frictional force between the belt and staple stick. The second way is to provide in the belt drive, force limiting means whereby the belt will stall while attempting to bias the stick into stapling position. This may be achieved by a slip clutch in the belt drive or by the use of an impedance limited motor, that is a motor which will stall in a steady state condition in readiness for continued operation when the stall force is removed.

The drive to the belt may be intermittent, for example by means of a motor which is actuated each time a staple is driven but maintains the biasing force on the staple stick when switched off, e.g. by being connected through a one-way clutch.

The belt may also be driven off the driver by providing a drive connection between the driver and belt such that for each operation of the driver, the belt is indexed

by an amount at least sufficient to position the next staple beneath the driver.

Advantageously, the staple stick is advanced to the driver along a rail on which the inside of the staple crown rests with the staple legs embracing the rail, and the belt engages the outside face of the crown. However, the staple stick may be supported in other ways and the belt may engage the inside face of the staple crown.

Where the stapler is adapted for crowned staples, the crown-engaging face of the belt may be matched to the profile of the crown.

The belt may be made of any material, reinforced if necessary, capable of exerting the necessary frictional force on the staples and is suitably made of a natural or synthetic elastomer such as latex, butyl or polyurethane elastomer. A reinforced belt may be formed of rubberized fabric. The belt may have a smooth crown-engaging surface or this surface may be roughened. The belt may have flexible surface projections; for example, it may be provided with hard-wearing bristles or it may be moulded with integral nodules on its surface.

In order that the invention may be more readily understood, reference will now be made to the accompanying drawings, in which:

FIG. 1 is a schematic sectional view of one embodiment of power-operated stapler according to the invention;

FIG. 2 is a cross-sectional view of the staple feeder of the stapler shown on FIG. 1;

FIG. 3 shows a staple magazine for the stapler of FIG. 1;

FIG. 4 is a cross-sectional view like that in FIG. 2 of a modified stapler;

FIG. 5 shows the manner of loading the staple magazine for the modified stapler of FIG. 4; and FIG. 6 shows a cross-section of staple magazine.

Referring to the drawings, FIG. 1 illustrates a power-operated stapler in accordance with this invention. The stapler may be manually operated or operate automatically, for example in response to the delivery of a document set or signature thereon. In one particular form the stapler may be incorporated in finishing apparatus for stapling document sets produced by a photocopier.

The stapler includes a driver 1, a magazine 2 for sticks of staples 3 and a staple feeder mechanism generally indicated at 4 for feeding the staples from the magazine 2 to the driver 1 along a staple rail 4 and for biasing the staples into position beneath the driver for stapling. The driver 1 is mounted in a stapler head 5 between a pair of side plates 6, only one of which is seen in FIG. 1. The staples 3 are successively driven downwards out of the stapler head by the driver 1 which reciprocates vertically. In order to turn over the staple legs once they have passed through a document set, a staple clinch 7, which may be of the active or passive type, both of which are well known in the art, is provided opposite the stapler head. The driver 1 may be reciprocated by any suitable drive means 8 which, as illustrated, may be of the pneumatically operated type, examples of which are well known in the art.

The staple driver 1 has wings 1a which slide in channels 9 (only one of which is seen in FIG. 1) in the stapler head side plates 6. The staple 3 to be driven is held with its legs in alignment with the guide channels 9 by a shoulder 10 on the driver 1. The staples are of the kind having a ruled crown, so-called crowned staples, as seen better in FIGS. 2 and 3. As compressed air is deliv-



Document ID	Title
22 US 4181327 A	Assembling method
23 US 4157778 A	Binding system
24 US 4151944 A	Staplers
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US-PAT-NO: 4151944

DOCUMENT-IDENTIFIER: US 4151944 A

Times New Roman 12

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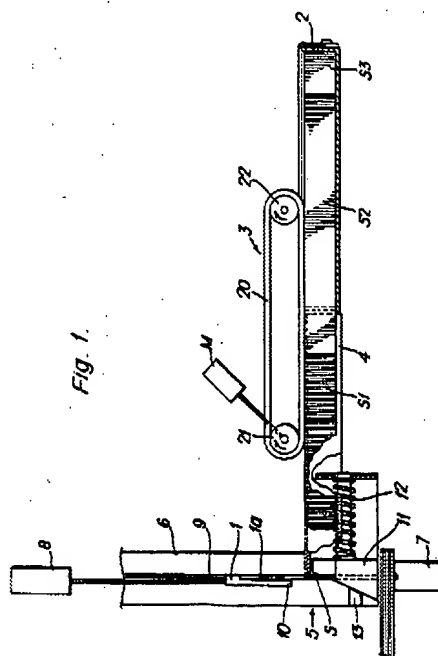
#### Brief Summary Text - BSTX (2):

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#### Current US Class - CLAS (1):

227

U.S. Patent May 1, 1979 Sheet 1 of 2 4,151,944



Document ID	Title
1 JP 10147191 A	BULKY RAISED NONWOV
2 JP 08132357 A	STAPLE REFILL CARTRIDGE
3 JP 06056145 A	CORRUGATED BOARD BO
4 JP 05330540 A	CORRUGATED CARD BOA

PAT-NO: JP408132357A

DOCUMENT-IDENTIFIER: JP 08132357 A

Power BRIDGE FOR ELECTRIC STAPLER

Times New Roman 12

PUBN-DATE: May 28, 1996

# INVENTOR-INFORMATION:

NAME  
YOSHIE, TORU  
TAKAHASHI, KAZUO

INT-CL (IPC): B25C005/16

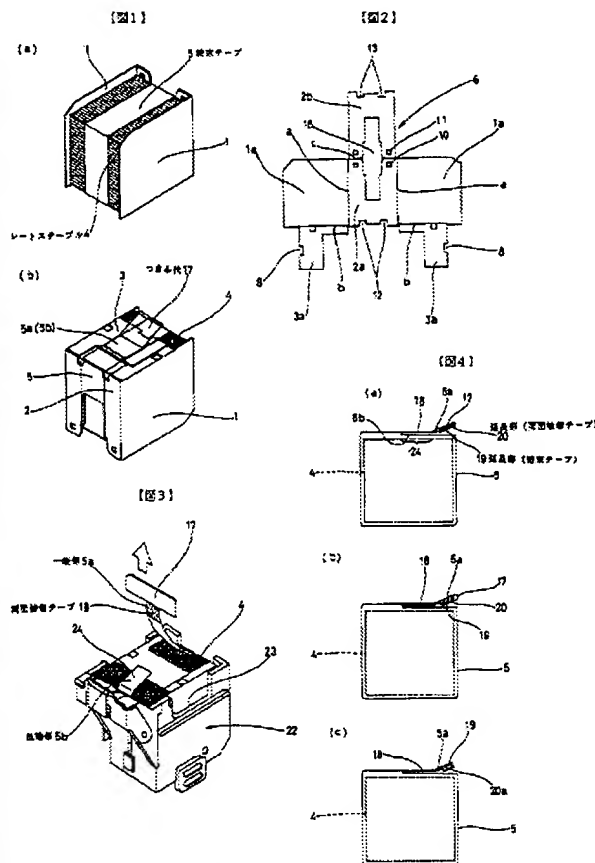
## ABSTRACT:

PURPOSE: To pull out a bundling tape smoothly at all times and remove it.

CONSTITUTION: In the refill cartridge which is provided attachably/detachably at a motor-driven stapler and on whose inside each sheet staple 4 that connects straight staples into a sheet shape is loaded in a layered state, the sheet staples 4 in the layered state are wound around by means of a bundling tape 5, and a both side adhesive tape 18 is affixed onto the inner side of one end portion 5a of the bundling tape 5, and bundling is conducted by bonding the inner side of this both-side adhesive tape 18 onto the outer side of the other end portion 5b of the bundling tape 5. One end portion 5a of the bundling tape 5 and the both-side adhesive tape 18 are extended, and a pick up margin 17 is formed by turning up the extension of the bundling tape 5 continuously inward and making it adhere to the both-side adhesive tape 18.

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(4) 特開平8-132357



PAT-NO: JP408132357A

DOCUMENT-IDENTIFIER: JP 08132357 A

TITLE: STAPLE REFILL CARTRIDGE FOR ELECTRIC STAPLER

PUBN-DATE: May 28, 1996

INVENTOR-INFORMATION:

NAME

YOSHIE, TORU

TAKAHASHI, KAZUO

INT-CL (IPC): B25C005/16

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----- KWIC -----

Abstract Text - FPAR (2):

CONSTITUTION: In the refill cartridge which is provided

attachably/detachably at a motor-driven stapler and on whose inside each sheet **staple** 4 that connects straight **staples** into a sheet shape is loaded in a **layered** state, the sheet **staples** 4 in the **layered** state are wound around by means of a bundling tape 5, and a both side **adhesive** tape 18 is affixed onto the inner side of one end portion 5a of the bundling tape 5, and bundling is conducted by bonding the inner side of this both-side **adhesive** tape 18 onto the outer side of the other end portion 5b of the bundling tape 5. One end portion 5a of the bundling tape 5 and the both-side adhesive tape 18 are extended, and a pick up margin 17 is formed by turning up the extension of the bundling tape 5 continuously inward and making it adhere to the both-side adhesive tape 18.

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Answer: ☐ between adjacent arrays in

INVENTOR: OBREGON, R; TALAVERA, M M

PRIORITY-DATA: 2001US-0975452 (October 11, 2001)

**PATENT-FAMILY:**

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN
JP 2003181581 A	July 2, 2003	N/A	006	B21F 045/24
US 20030072637 A1	April 17, 2003	N/A	009	F16B 015/08

INT-CL (IPC): B21F045/24, B23P025/00, B32B001/00, F16B015/08

ABSTRACTED-PUB-NO: US20030072637A

**BASIC-ABSTRACT:**

**NOVELTY** - The method involves fabricating multiple arrays (102) of staple wires detachably connected along a predetermined direction. The fabricated arrays of staple wires are stacked along another predetermined direction. An adhesive (103) is provided between adjacent arrays in the stacked arrays.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

(a) a staple refill; and

(b) a staple refill consuming system.

**USE -** For staple wire refill used for copier.

(19) **United States**  
(12) **Patent Application Publication**  
Obregon et al.

(10) Pub. No.: US 2003/0072637 A1  
(43) Pub. Date: Apr. 17, 2003

(54) CONSUMABLE STAPLE REFILL

**Publication Classification**

(76) Inventors: Roberto Otlaregon, Jalisco (MX);  
Marina M. Delviera, Jalisco (MX)

{51) Int. Cl. F16B 15/08; B32B 1/00;  
B23P 25/00

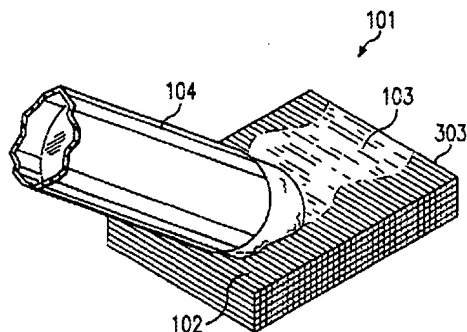
Correspondence Address:  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272408  
Fort Collins, CO 80527-2400 (US)

(21) Appl. No: 09/973,452

(23) File#: Oct. 11, 2001

## (57) ABSTRACT

The present invention is directed to a system and method for building a consumable part refill, which may be a staple refill, the method comprising the steps of fabricating an array of consumable parts detachably connected along a first direction, stacking a plurality of such fabricated arrays of parts, or staple wire plates, along a second direction, and providing an adhesive bond between adjacent ones of this stacked plurality of arrays.



DERWENT-ACC-NO: 1989-311737

DERWENT-WEEK: 198943

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TITLE: Producing staple stack held together by linear members -  
which are interference fit in aligned recesses forming  
channels

INVENTOR: JOYCE, W A J

PRIORITY-DATA: 1988GB-0009150 (April 18, 1988) , 1988GB-0091509 (April 18,  
1988)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
GB 2217286 A	October 25, 1989	N/A	015	N/A

INT-CL (IPC): B65B015/00, B65D073/00 , B65D085/24

ABSTRACTED-PUB-NO: GB 2217286A

BASIC-ABSTRACT:

Stacks of staples (8) are produced from a metal strip (1). One side of the strip is coin pressed at one edge (10) to sharpen it following which the strip is pressed to form a succession of V-shaped profiles (12), each of which will constitute the body of a staple. Recesses (14) are formed at predetermined intervals along the strip and the V-shaped profiles are cropped off and arranged in a continuous stack with the recesses aligned to form a channel (16) extending along it. A linear member (19), which forms an interference fit, is inserted in the channel to cause the staples to be securely held together.

USE/ADVANTAGE - Metal staple is of the type used to form the joints at the corners of rectangular wooden picture frames but the invention is applicable to processes for producing a variety of small parts. Previously, the staples were held together in the stack by a lacquer or suitable adhesive. The aligned

recesses and linear members obviate the need for lacquer or adhesive and appts. used for driving the staples into the wooden frame operates more effectively because it is not prone to jamming with residual lacquer or adhesive.

----- KWIC -----

Basic Abstract Text - ABTX (2):

USE/ADVANTAGE - Metal staple is of the type used to form the joints at the corners of rectangular wooden picture frames but the invention is applicable to processes for producing a variety of small parts. Previously, the staples were held together in the stack by a lacquer or suitable adhesive. The aligned recesses and linear members obviate the need for lacquer or adhesive and appts. used for driving the staples into the wooden frame operates more effectively because it is not prone to jamming with residual lacquer or adhesive.